

# MI FluFocus

## Influenza Surveillance Updates Bureaus of Epidemiology and Laboratories



Editor: Susan Peters, DVM    PetersS1@Michigan.gov  
Surveillance and Infectious Disease Epidemiology

August 26, 2010  
Vol. 7; No. 32

### Current Influenza Activity Levels:

- **Michigan:** No activity
- **United States:** Reporting has concluded for the 2009-2010 influenza season

### Updates of Interest:

- **National:** CDC releases new annual estimates of influenza-associated deaths; see page 3 for more information.

### Table of Contents

Influenza Surveillance Reports	
Michigan.....	1-3
National.....	3
International.....	3
Novel Influenza and Other News	
WHO Pandemic Phase.....	4
Avian Influenza Surveillance.....	4
Avian Influenza H5N1 in Humans.....	4

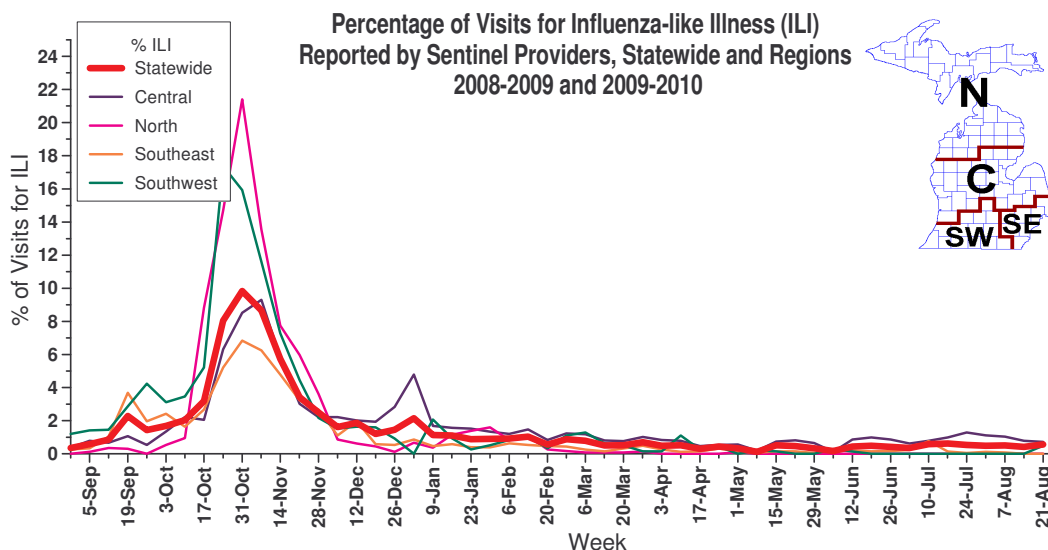
## Influenza Surveillance Reports

**Michigan Disease Surveillance System:** MDSS data for the week ending August 21<sup>st</sup> indicated that aggregate influenza case reports remained at baseline summer levels. Individual reports, including influenza and 2009 novel influenza cases, remained near the previous week's reported levels of little to no activity. Aggregate influenza cases and individual influenza cases are similar to levels seen during the same reporting period in 2009.

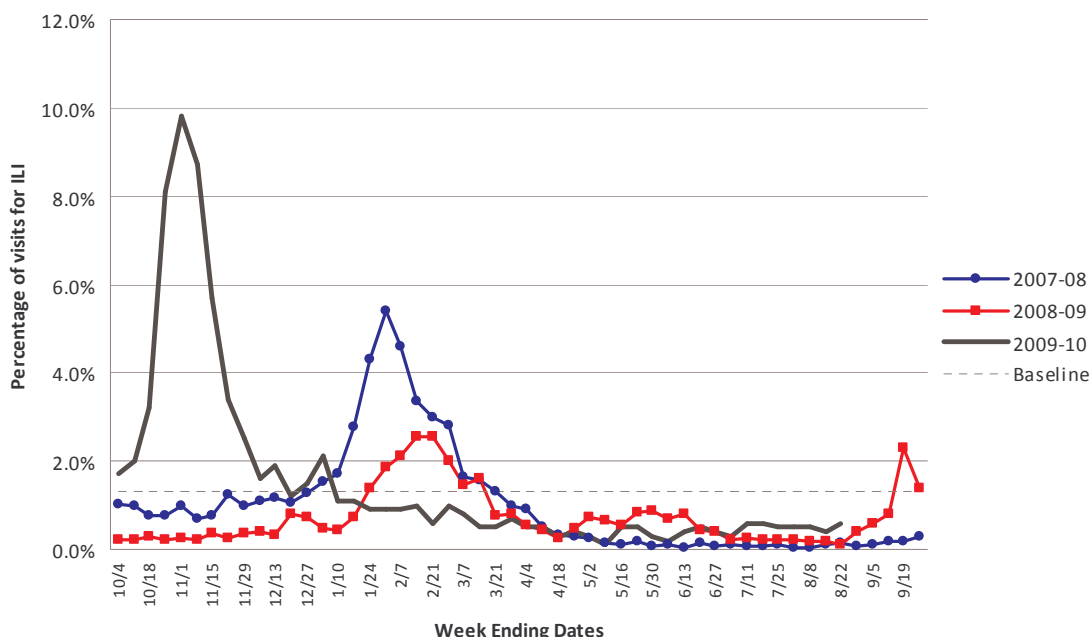
**Emergency Department Surveillance:** Emergency department visits from both constitutional and respiratory complaints were comparable to the previous week's levels. Both constitutional and respiratory complaints are at similar levels compared to the same reporting period last year. In the past week, there were five constitutional alerts in the SW(2), C(2), and N(1) Influenza Surveillance Regions and three respiratory alerts in the C Region.

**Over-the-Counter Product Surveillance:** Over the past week, all OTC product sales remained similar to last week's levels, except for chest rubs, which decreased slightly. When compared to this time last year, sales of chest rubs and cough/cold medications are slightly increased, unpromoted children's electrolytes are slightly decreased, and thermometers are similar.

**Sentinel Provider Surveillance (as of August 26):** During the week ending August 21, 2010, the proportion of visits due to influenza-like illness (ILI) remained at low levels at 0.6% overall. Thirty patient visits due to ILI were reported out of 5,249 office visits. Seventeen sentinel sites provided data for this report. Activity slightly increased in one surveillance region: Southwest (0.5); decreased in one surveillance region: Central (0.7%); and no ILI activity was reported in the remaining two regions: Southeast and North. Please note these rates may change as additional reports are received.



**Percentage of Visits for Influenza Like Illness (ILI) Reported by the US Outpatient  
Influenza-like Illness Surveillance Network (ILINet) - Michigan, 2007-2010**



As part of pandemic influenza surveillance, CDC and MDCH highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Cristi Carlton at 517-335-9104 or CarltonC2@michigan.gov for more information.

**Laboratory Surveillance (as of August 21):** During August 15-21, no influenza isolates were identified at the MDCH Bureau of Laboratories. For the 2009-2010 season (starting on October 4, 2009), MDCH BOL has identified 614 influenza isolates:

- 2009 Influenza A (H1N1): 610
- Influenza A (H3): 3
- Influenza B: 1

Seven sentinel laboratories reported for the week ending August 21, 2010. All laboratories (SE, SW, C, N) reported no influenza A or B positive test results, with very few specimens being tested. One lab from the SW Region reported one positive adenovirus result.

**Michigan Influenza Antigenic Characterization (as of August 26):** One 2009 H1N1 influenza A virus from Michigan has undergone further characterization at the CDC. This virus was characterized as A/California/07/2009 (H1N1)-like, which is the recommended strain for the H1 component of the 2010-11 Northern Hemisphere vaccine.

**Michigan Influenza Antiviral Resistance Data (as of August 26):** MDCH has received 34 results for antiviral resistance testing for the 2009-2010 season. All of the specimens tested were pandemic 2009 influenza A (H1N1) viruses. Of these results, two viruses have shown resistance to oseltamivir. The first virus was obtained in November 2009 from a 3 year old child from the SE Region with an underlying immunosuppressive condition and had a multiple courses of oseltamivir prior to specimen collection. The second virus was obtained in December 2009 from a 52 year old from the SE Region with an underlying immunosuppressive condition and chronic pulmonary infection; laboratory testing has confirmed that this mutation occurred within the patient during his illness. The 34 specimens tested were distributed as follows: 9 Southeast, 8 Southwest, 9 Central, 2 North, 6 unknown.

Antiviral resistance testing takes months to complete and cannot be used to guide individual patient treatment. However, CDC has made recommendations regarding the use of antivirals for treatment and prophylaxis of influenza. The guidance is available at <http://www.cdc.gov/H1N1flu/recommendations.htm>.

**Influenza-Associated Pediatric Mortality (as of August 26):** Five 2009 H1N1 influenza-associated pediatric mortalities (SE(3), SW, N) have been reported to MDCH for the 2009-2010 influenza season.

\*\*\*CDC has asked states for information on any pediatric death associated with influenza. This includes not only any pediatric death (<18 years) resulting from a compatible illness with laboratory confirmation of

influenza, but also any unexplained pediatric death with evidence of an infectious process. Please immediately call MDCH to ensure proper specimens are obtained. View the complete MDCH protocol online at [http://www.michigan.gov/documents/mdch/ME\\_pediatric\\_influenza\\_guidance\\_v2\\_214270\\_7.pdf](http://www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf).

**Influenza Congregate Settings Outbreaks (as of August 26):** Seven congregate setting outbreaks with confirmatory novel influenza A H1N1 testing (2SE, 3 SW, 1C, 1N), and three outbreaks associated with positive influenza A tests (2C, 1N) have been reported to MDCH for the 2009-2010 influenza season. These are 8 school facilities and 2 long term care facilities. Human metapneumovirus was confirmed in one outbreak in a long term care facility (SW) in February. Adenovirus was confirmed from one outbreak in an elementary school (SW) in May.

During fall 2009, 567 influenza-related school and/or district closures in Michigan (Public Health Preparedness Region 1 - 55, Region 2N - 4, Region 2S - 8, Region 3 - 54, Region 5 - 153, Region 6 - 100, Region 7 - 109, Region 8 - 84) were reported.

**National (MMWR Vol. 59 No. 33 [edited], August 26):** Influenza infections are associated with thousands of deaths every year in the United States, with the majority of deaths from seasonal influenza occurring among adults aged  $\geq 65$  years. For several decades, CDC has made annual estimates of influenza-associated deaths, which have been used in influenza research and to develop influenza control and prevention policy. To update previously published estimates of the numbers and rates of influenza-associated deaths during 1976–2003 by adding four influenza seasons through 2006–07, CDC used statistical models with data from death certificate reports. National mortality data for two categories of underlying cause of death codes, pneumonia and influenza causes and respiratory and circulatory causes, were used in regression models to estimate lower and upper bounds for the number of influenza-associated deaths. Estimates by seasonal influenza virus type and subtype were examined to determine any association between virus type and subtype and the number of deaths in a season. This report summarizes the results of these analyses, which found that, during 1976–2007, estimates of annual influenza-associated deaths from respiratory and circulatory causes (including pneumonia and influenza causes) ranged from 3,349 in 1986–87 to 48,614 in 2003–04. The annual rate of influenza-associated death in the United States overall during this period ranged from 1.4 to 16.7 deaths per 100,000 persons. The findings also indicated the wide variation in the estimated number of deaths from season to season was closely related to the particular influenza virus types and subtypes in circulation.

[Ed. note: The complete article can be viewed online at <http://www.cdc.gov/mmwr/pdf/wk/mm5933.pdf>.]

**National:** To access previous Center for Disease Control and Prevention weekly surveillance reports, visit <http://www.cdc.gov/flu/weekly/fluactivity.htm>.

**International (WHO Update 114 [edited], August 20):** In New Zealand, during the first week of August 2010, the national consultation rate for ILI\*\* increased sharply. Influenza H1N1 (2009) virus transmission appears to be locally intense in parts of the country that were less affected during last winter's pandemic wave; however, to date, the overall national rate of ILI consultations and the numbers of severe and fatal cases of H1N1 (2009) remain below levels observed during the 2009 winter pandemic wave. The majority of influenza viruses detected during the current winter epidemic have been H1N1 (2009).

In India, community transmission of H1N1 (2009) remained active and moderately intense in several states, most notably in the states of Maharashtra but also in several other western and southern states (Gujarat, Andhra Pradesh, Karnataka, and Tamil Nadu). Between mid-June 2010 and the second week of August 2010, the state of Maharashtra reported consecutive weekly increases in the number of new cases, including numbers of new fatal cases; the epidemic does not appear to have peaked in Maharashtra but the rate of increase in the numbers of new cases appears to have slowed. The epidemic appears to have stabilized or begun to decline in several other affected states. Seasonal B viruses are also known to be currently circulating in India, although at lower levels than H1N1 (2009) viruses.

Except in South Africa and New Zealand, overall influenza activity and rates of respiratory diseases remained low in other countries of the temperate southern hemisphere (Australia, Chile, and Argentina). In South Africa, active circulation of seasonal influenza H3N2 and type B viruses was observed during June through mid-August 2010. In Argentina, there are unconfirmed media reports of localized influenza outbreaks in at least one part of the country.

Weekly reporting of influenza activity to the CDC has concluded for the 2009-2010 season.

For additional flu vaccination and education information, the MDCH *FluBytes* newsletter is available at [http://www.michigan.gov/mdch/0,1607,7-132-2940\\_2955\\_22779\\_40563-125027--,00.html](http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779_40563-125027--,00.html).

## Novel Influenza Activity and Other News

**WHO Pandemic Phase:** Post pandemic - Influenza disease activity has returned to levels normally seen for seasonal influenza. It is expected that the pandemic virus will behave as a seasonal influenza A virus. It is important to maintain surveillance and update pandemic preparedness/response plans accordingly.

**International, Research (CIDRAP, August 25):** In an effort to explore the genetic connections between circulating H1N1 viruses in humans and pigs, researchers compared three new H1N1 swine influenza viruses isolated in the country with all human and swine H1N1 viruses from China over the past 5 years. They published their findings in the *Journal of Clinical Virology*. They conducted both phylogenetic and molecular analyses during their comparisons. They found that over the past 5 years classical, avian-like, and human-like H1N1 swine influenza viruses circulated in the country's swine herds. They also found evidence of reassortment between H1N1 swine and H3N2 human influenza. Their data did not show a strong correlation between the 2009 H1N1 virus and swine influenza viruses circulating in China.

[Ed. note: The abstract for this study is available online at [http://www.sciencedirect.com/science?\\_ob=ArticleURL&\\_udi=B6VJV-50V4VTY-1&\\_user=437811&\\_coverDate=08%2F21%2F2010&\\_rdoc=1&\\_fmt=high&\\_orig=search&\\_sort=d&\\_docanchor=&view=c&\\_acct=C000020856&\\_version=1&\\_urlVersion=0&\\_userid=437811&md5=d6af773972a278164a51254d50906757](http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VJV-50V4VTY-1&_user=437811&_coverDate=08%2F21%2F2010&_rdoc=1&_fmt=high&_orig=search&_sort=d&_docanchor=&view=c&_acct=C000020856&_version=1&_urlVersion=0&_userid=437811&md5=d6af773972a278164a51254d50906757).]

**Michigan Wild Bird Surveillance (USDA, as of August 26):** For the 2010 season (April 1, 2010-March 31, 2011), highly pathogenic avian influenza H5N1 has not been recovered from 9,998 samples tested nationwide, including 673 Michigan samples (5 live bird, 658 hunter-killed birds, 10 morbidity/mortality). For more information, visit the HPAI Early Detection Data System at <http://wildlifedisease.nbio.gov/ai/>.

To learn about avian influenza surveillance in Michigan wild birds or to report dead waterfowl, go to Michigan's Emerging Disease website at <http://www.michigan.gov/emergingdiseases>.

**International Poultry and Wild Bird Surveillance (OIE):** Reports of avian influenza activity, including summary graphs of avian influenza H5N1 outbreaks in poultry, can be found at the following website: [http://www.oie.int/download/AVIAN%20INFLUENZA/A\\_AI-Asia.htm](http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm).

**For questions or to be added to the distribution list, please contact Susan Peters at [PetersS1@michigan.gov](mailto:PetersS1@michigan.gov)**

### **Contributors**

**MDCH Bureau of Epidemiology - Sally Bidol, MPH; Cristi Carlton, MPH; Edward Hartwick, MS**

**MDCH Bureau of Laboratories – Anthony Muyombwe, PhD; Victoria Vavricka, MS**

**Table 1. H5N1 Influenza in Humans - Cases up to August 12, 2010.** [http://www.who.int/csr/disease/avian\\_influenza/country/cases\\_table\\_2010\\_08\\_12/en/index.html](http://www.who.int/csr/disease/avian_influenza/country/cases_table_2010_08_12/en/index.html). Downloaded 8/12/2010. Cumulative number of lab-confirmed cases reported to WHO. Total cases includes deaths.

Country	2003		2004		2005		2006		2007		2008		2009		2010		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	0	0	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Cambodia	0	0	0	0	4	4	2	2	1	1	1	0	1	0	1	1	10	8
China	1	1	0	0	8	5	13	8	5	3	4	4	7	4	1	1	39	26
Djibouti	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	25	9	8	4	39	4	21	8	111	35
Indonesia	0	0	0	0	20	13	55	45	42	37	24	20	21	19	6	5	168	139
Iraq	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	3	2
Lao PDR	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
Pakistan	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	3	1
Thailand	0	0	17	12	5	2	3	3	0	0	0	0	0	0	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	0	0	0	0	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	8	5	6	5	5	5	7	2	119	59
Total	4	4	46	32	98	43	115	79	88	59	44	33	73	32	36	17	504	299